

Asssessing Safety Behaviors of Florida Firefighters

Virginia Sublet, PhD, Sunshine ERC at the University of South Florida and National Institute for Occupational Safety and Health

Abstract

There are over 1,000,000 firefighters in the United States (U.S.). One of the serious conditions that can develop for firefighters is heat stress due to extreme heat exposure on-the-job. Heat stress can result in heat rash, progress to exhaustion, cardiac effects and ultimately death. Although this condition is largely preventable, it remains a serious problem in the fire service. The objective of the study described here was to assess the safety behaviors of firefighters in Florida. It is well known that the percent of high humidity and elevated temperatures experienced in Florida may put these firefighters at greater risk of heat stress than fire professionals in other regions of the U.S.

The methodological approach for this study was qualitative and used focus groups as the data collection method. The focus groups concentrated on the perceptions, opinions, behaviors and attitudes of firefighters in 4 fire departments in north, central and south Florida. One of the groups was a volunteer fire department and the other three were composed of paid firefighters. The size of fire departments ranged in size from small (10 firefighters) to medium (60 firefighters) to large (1500 firefighters).

Study findings indicated that many firefighters do not fully comprehend the seriousness and potential lethal effects of heat stress, are significantly influenced by the opinions of fellow firefighters and management, and tend to ignore symptoms of heat stress until they are so severe they are forced to leave the hot environment. This poster will describe the design, methods, and future direction of the research. (The author would like to acknowledge NIOSH for funding this research.)



The Problem

- Heat stress effects all firefighters due to extreme heat exposure on-the-job.
- Symptoms range from rash to exhaustion and sometimes result in death due to stroke.
- Heat stress is largely preventable but remains a very serious problem in the U.S. Fire Service.

What is Heat Stress?

Heat stress illness develops when normal core body temperature (98.6 degrees Fahrenheit) can no longer be maintained because of extreme heat exposure. Heat stress includes one or several conditions including skin rash, muscle cramps, exhaustion, and possibly stroke. These conditions may occur as single or multiple effects and may result in stroke or death.



Firefighter Experiencing Heat Stress

Objective

Assess the safety behaviors (heat stress, safety belts, vehicular accidents) of firefighters in Florida.



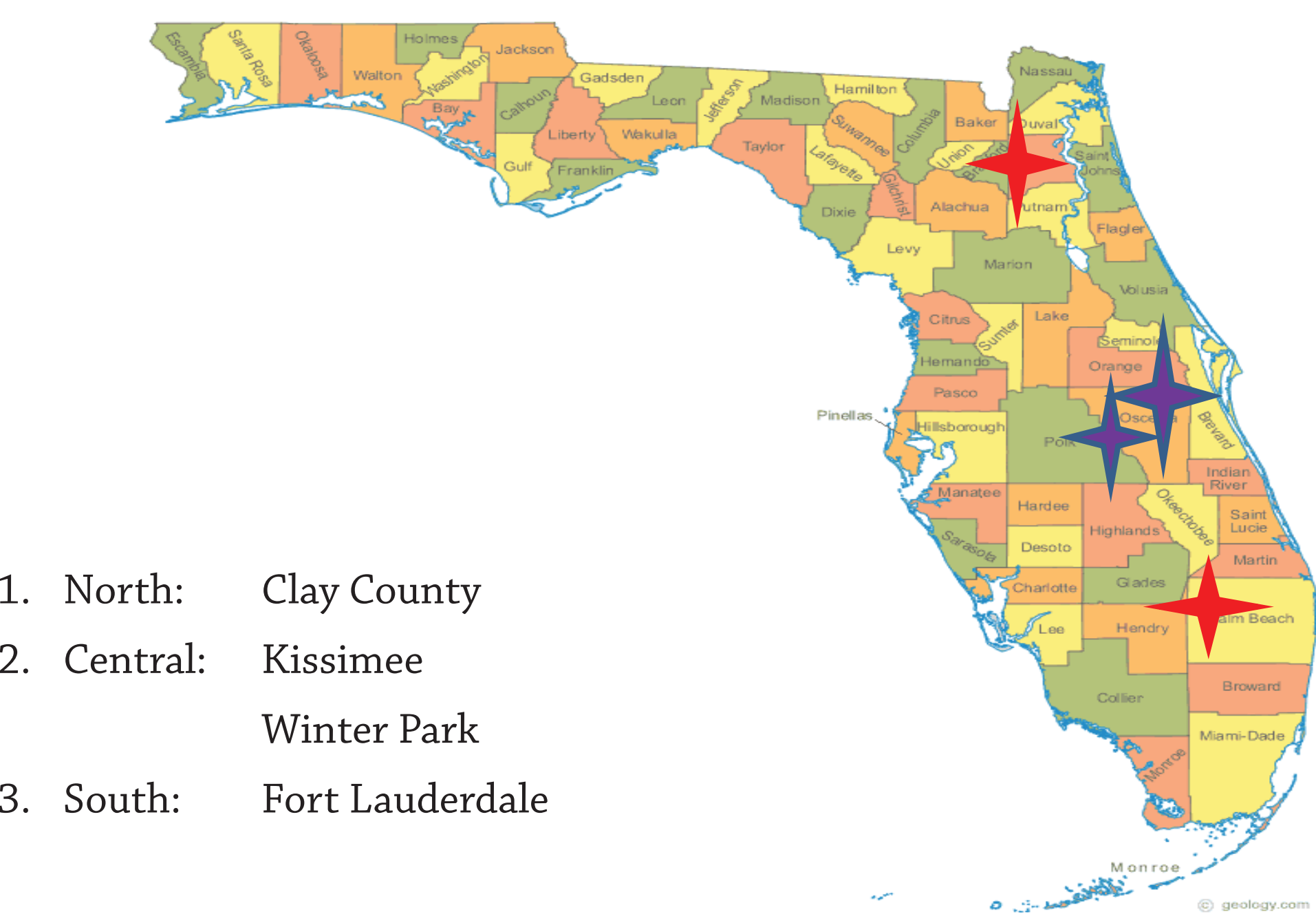
Design and Methods

- Design: Qualitative
- Methodology: Focus groups and interviews of firefighters in north, central and south Florida

Demographic Results

Demographic			
Gender	3 Females	57 Males	NA
Type of Fire Department	1 Volunteer	3 Paid	NA
Number of Focus Groups and Interviews	7 Groups	1 Interview	NA
Type of Job	59 LOD Firefighters	1 Battalion Chief	NA
Size of Fire Department	1 Small	2 Medium	1 Large

Geographic Locations of Firefighters Study



What Firefighters Say about Heat Stress....

- Most firefighters did not comprehend the seriousness and potential lethal effects of heat stress.
- The majority of firefighters indicated that they are significantly influenced by the opinions of fellow firefighters and managers regarding their own safety.
- Firefighters tended to ignore symptoms of heat stress until they are so severe effected they are forced to leave the hot environment.

Firefighters at Winter Park Fire Department



What Firefighters Say about Heat Stress....

“There is no one else to do the job.”

“You go on auto pilot and continue doing your job until the fire is out or you can’t function.”

“Sometimes it is only when you come out that you realize what has happened to you.”

“ You can’t walk or you feel your whole body overheated but you can’t sweat.”

Major Findings from Focus Groups

- Most firefighters did not comprehend the seriousness and potential lethal effects of heat stress.
- The majority of firefighters indicated that they are significantly influenced by the opinions of fellow firefighters and managers regarding their own safety.
- Firefighters tended to ignore symptoms of heat stress until they are so severe effected they are forced to leave the hot environment.

Preliminary Recommendations

- Increase rehab facilities.
- Reduce weight of equipment and clothing.
- Improve awareness and safety behaviors of firefighters to reduce and prevent heat stress.

Next Steps

- Continue focus groups with firefighters in states outside of Florida to assess heat stress in these fire professionals.
- To obtain information on the opinions, safety behaviors, and safety needs of volunteer firefighters.

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For More Information

Virginia Sublet
321-939-1315
vsublet@health.usf.edu
vxs3@cdc.gov

